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Coordination of statistical data collection from countries

Report of the Secretary-General

Summary

The present report was prepared at the request of the Statistical Commission at its thirty-third session.[a] It describes the efforts of the United Nations Statistics Division, in collaboration with other international organizations, to eliminate duplication in data collection.

Points for conclusion by the Commission are contained in paragraph 6.

Notes

[a] See *Official Records of the Economic and Social Council, 2002, Supplement No. 4* (E/2002/24), para. 80.

* E/CN.3/2003/1.

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1. At the request of the Statistical Commission at its thirty-second session,[1] the United Nations Statistics Division requested the 53 national statistical offices that were represented for examples of duplication of statistical data-collection activities practised by international organizations. Eleven countries responded and the replies were reported to the Commission at its thirty-third session (see E/CN.3/2002/30, annex).

2. The former ACC Subcommittee on Statistical Activities considered the issue at its thirty-fifth session held in Vienna from 18 to 20 September 2001. The lead organizations, the International Labour Organization (ILO), the Food and Agriculture Organization of the United Nations (FAO), the Organisation for Economic Cooperation and Development (OECD), the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the United Nations Statistics Division, have investigated each reported instance. The results of that work were reported to the Commission at its thirty-third session.[2]

3. During an inter-agency meeting on the coordination of statistical activities (New York, 17-19 September 2002), the international organizations reconfirmed their commitment to continue working both on the reported examples of data-collection duplication that had not yet been solved and on the issue in general. The newly created Committee for the Coordination of Statistical Activities, successor of the former ACC Subcommittee on Statistical Activities, will serve as the platform for those issues.

4. In some instances, the duplication of data collection has already been eliminated by the organizations involved. For example, the Asian Development Bank (ADB) agreed to use the labour force and employment data collected by the International Labour Organization to pre-fill its questionnaire, and the United Nations Statistics Division has reached new agreements with ILO and UNESCO on the exchange of national demographic data. In other cases, consultations between relevant organizations and bodies are ongoing.

5. On a more general level, the Division has examined its own data-collection activities. A report entitled "United Nations Statistics Division data collections and quality procedures" is contained in the annex. The Division has also started to systematically review its agreements with other international organizations and with regional organizations on the exchange of national demographic and other data.

6. The Commission may wish to: (a) endorse the approach taken by the Division and the Committee to eliminate specific examples of data-collection duplication; (b) request the Committee to continue working on the issue and report on progress made; and (c) encourage member States to bring instances of duplication of data collection at the international level to the attention of the Division.

Notes

[1] See *Official Records of the Economic and Social Council, 2001, Supplement No. 4* (E/2001/24), chap. I, sect. A.

[2] See E/CN.3/2002/30; and background paper entitled "Observations on issues related to coordination of data collection from countries by international organizations and interim report on investigation of incidences notified by countries".

Annex

United Nations Statistics Division data collections and quality procedures

1. The purpose of the present annex is to give a brief overview of the data collections of the United Nations Statistics Division, including descriptions of data-editing procedures and policies.

Data collections

2. The Division runs 19 recurrent data collections (for an itemized list, see appendix).

Periodicity

3. Most of the Division's data collections are annual. The exceptions are:

- Total exports and imports: values and index numbers (monthly).
- Manufactured goods exports and fuel imports (annual, quarterly and monthly).
- Index numbers of industrial production (quarterly).
- Environmental statistics (biennially).

Timeliness

4. The timeliness with which statistics are published[a] is a function of the periodicity of the collection and the nature of the data. For monthly collections, the statistics are released about one to two months after the reference period. For annual collections, the time lag between the reference period and the release date varies from less than one year (*Detailed International Trade Statistics*) to 1 year and 10 months (*Demographic Yearbook Vital Statistics*). Systematic efforts are made to achieve the best possible timeliness, including sending out reminders in various forms, the use of pre-filled questionnaires and supporting the use of different media for data transfer (paper questionnaire, electronic questionnaire, downloads from web sites). More details are provided below.

Intended geographical coverage

5. Intended coverage refers to the specific countries and areas for which data are sought. Most of the Division's data collections intend to cover all (or most) countries/areas of the world (the so-called M49 list).[b] One collection relates to a restricted number of countries, because the subject matter is only relevant for some countries. This applies to manufactured goods exports and fuel imports (44 countries).

Countries or areas from which data are actually collected

6. No data are collected from countries for which another international organization is known to collect the same data. In such cases, the Division obtains the data from that other organization on the basis of a formal or informal data-sharing agreement. In particular, no data are collected from countries from which Eurostat or OECD[c] collect statistics on the same subject matter. In addition, a

variety of international organizations within or outside the United Nations system (or their publications and web sites) are occasionally contacted when data for certain countries or commodities are not available. For example, for industrial statistics, some of the data are obtained from national and international publications, such as the *Chemical Industry Yearbook*, *Lloyds Register of Shipping*, *Lead and Zinc Statistics* and the *International Sugar Yearbook*.

Response rates and completeness of responses

7. While the *intended* geographical coverage was discussed in paragraph 5 above, the *actual* geographical coverage (which countries actually provide data) of Division statistics is a function of response rates. To the extent that data collected by other international organizations are used, coverage clearly also depends on the response rates achieved by those organizations.

8. In addition to geographical coverage, substantive coverage (the completeness of the response by countries) is also an important issue. For several data collections, the response (mostly by developing countries) is unsatisfactory, either geographically or substantively or both. However, the situation is very diverse. The information below relates to the latest reference period for which the data collection has been closed and refers to *Division questionnaires only*:

- *Monthly Bulletin of Statistics*: 25 per cent response rate (Europe very good, Africa very poor).
- *National Accounts Main Aggregates and Detailed Tables*: actual coverage is almost 60 per cent of the countries and 95 per cent of GDP (response rates for Africa and small island developing States are very poor).
- *Demographic Yearbook Vital Statistics*: 55 countries provided all or most of the requested data, 36 countries provided some data and 132 did not respond.
- *Demographic Yearbook*: population estimates: 49 countries provided all or most of the data, 27 countries provided some data and 147 did not respond.
- *Detailed International Trade Statistics*: 125 countries supplied all or most of the data, 50 supplied some data, 25 did not respond.
- *Direction of Trade*: 30 (out of 80) countries supplied all requested data, 50 did not respond.
- *Manufactured Goods Exports and Fuel Imports*: 50 per cent of the countries provided complete data, 25 per cent partial data.
- *Total Imports and Exports*: values and index numbers: only 30 per cent of the countries provided partial information.
- *Environmental Statistics*: about 70 countries submitted partial information.
- *Energy Statistics*: about 35 per cent of the countries submitted partial information (Africa 24 per cent, Asia/Middle East/Oceania 70 per cent, Americas and the Caribbean 50 per cent).
- *Industrial Commodity Production*: roughly half of the countries submit data.
- *Index Numbers of Industrial Production*: 50-60 per cent of the countries submit data.

Sources of data collection

9. In paragraph 6 above, some general information was given about the various data sources used by the Division. For the Division's own data collections from countries, national statistical offices are the principal data providers. In some cases, data are provided by central banks. Occasionally, a ministry or another government organization provides the data, either through the national statistical office or directly to the Division. In the case of international trade statistics, national customs organizations are the respondents for some countries. For national accounts, apart from countries, some of the data are obtained from a variety of other sources, including regional development banks and organizations, such as the secretariat of the Commonwealth of Independent States (CIS), the Caribbean Community (CARICOM) or the *International Financial Statistics* publication of the International Monetary Fund (IMF).

Data-sharing agreements

10. To avoid duplication, the Division has a number of data-sharing agreements with other international organizations. Apart from the general principle (discussed several times in ACC) that international organizations agree to contribute data for the *Statistical Yearbook* when required, there are other formal agreements to share or jointly collect data. Joint questionnaires exist for the following Division collections:

- For national accounts (analysis of main aggregates), a joint United Nations Statistics Division/Eurostat/the Economic Commission for Europe (ECE) questionnaire has been used for a long time.
- For energy statistics, there is a joint United Nations Statistics Division/OECD/International Energy Agency questionnaire.
- For the *Demographic Yearbook*/vital statistics and population estimates, there is a joint United Nations Statistics Division/Eurostat questionnaire.

11. Formal data-sharing agreements without a joint questionnaire exist for:

- National accounts (analysis of main aggregates), with the Economic Commission for Latin America and the Caribbean (ECLAC), the Economic and Social Commission for Western Asia and the Economic and Social Commission for Asia and the Pacific.
- National accounts (detailed tables), with OECD, Eurostat and ECE.
- Environment statistics, with OECD, FAO, Eurostat and the United Nations Environment Programme.
- Detailed international trade statistics, with OECD.

12. Informal data-sharing agreements exist for:

- National accounts, with ADB, CIS, CARICOM, the Eastern Caribbean Community Bank.
- Energy statistics, with the Latin American Energy Organization.
- *Monthly Bulletin of Statistics*, with the International Civil Aviation Organization, IMF and *Lloyds Register of Shipping*.

- Detailed international trade statistics, with ECLAC and FAO.
- The total exports/imports; values/index numbers collection is complementary to the related IMF publications.

Data collection instruments

13. As mentioned before, the Division uses various forms of data-collection instruments, based on what is most convenient for organizations and countries, as well as efficient for the further data-editing and dissemination process within the Division. Most data collections use a variety of instruments. The most important instruments are:

- Paper questionnaires, sometimes pre-filled (when this is relevant) with information the Division has from the previous reference period (this is done for energy statistics, environment statistics and industrial commodity production statistics).
- Electronic questionnaires (sometimes pre-filled) that can be returned by e-mail.
- Countries or organizations transmit their databases (e.g., on CD-ROM) to the Division (for detailed international trade statistics and national accounts, this is the most important instrument of data collection).
- Countries send printed or electronic publications to the Division.
- The Division downloads data from Internet sites.
- The Division gathers information from printed national or international publications.

14. For most data collections, to the extent that data are collected from *countries*, paper questionnaires continue to be important.

Metadata

15. In order to be able to properly understand the data that the Division receives from countries, metadata are indispensable. Therefore, metadata are requested explaining:

- Methods used (concepts, definitions, classifications), particularly to identify differences between national methods and international recommendations and classifications.
- Sources of base data.
- Explanations about specific figures when appropriate (footnotes).
- Information on conversion factors and exchange rates, when appropriate.
- Methods used for estimates and adjustments.

16. For international trade statistics in particular, it is essential to have information about national classifications of commodities, countries/areas, as well as about the trade system used (general or special), valuations (cost, insurance, freight/free on board etc.) and the exact definitions of partner countries (country of origin, consignment, final destination etc.).

Completeness and quality of metadata that is received

17. While in some cases the metadata received are satisfactory, often countries fail to report about changes in methods, definitions and classifications. As a rule, when necessary metadata are missing, countries are contacted. However, many countries do not respond adequately to requests for metadata. Generally, metadata for OECD countries are of a better quality than metadata for developing countries.

Data processing and editing procedures

18. The typical data-editing process at the Division is organized in two steps: (a) "manual" checking of individual country questionnaires and records; and (b) after the data have been uploaded to a database, both manual and electronic checking, both of data from individual countries and of aggregate tabulations. The checking and editing procedures described below are typically applied.

19. For paper questionnaires, where appropriate, the following procedures apply:

- Coding of lines and cells.
- Numerical checks (do data add up to totals etc.).
- Internal consistency checks (do corresponding data match, e.g., in the national accounts questionnaire).
- Logical checks (does value A seem plausible in view of related value B).

20. For data in a database, some of the checks of the previous step are repeated. In addition, the following checks are applied:

- Checks against data on previous periods.
- Checks of aggregate tabulations.

21. More specifically, attention is given to:

- (*Demographic Yearbook*) Dealing with backward revisions by countries.
- (International trade) Completeness of data, conversion of country code to United Nations standards, conversion of national currency to United States dollars, conversion of quantities to metric values (where possible), unit values checks against previous years.
- (Index of industrial production) Recoding to the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 3.

22. To handle inconsistencies and improbable values that cannot simply be corrected, the country is contacted for clarification. If there is no (timely) reply, decisions are made on the basis of experience: either the data are taken as they are (with the footnote "As received by national authorities") or they are left out (with an explanatory footnote). As a general rule, the Division does not make estimates for missing values or replaces unlikely data. In a few cases, however, (*Monthly Bulletin of Statistics*, *Index of Industrial Production*, *Direction of Trade*) outliers, anomalies or missing values are replaced by either Division estimates or data from other sources.

Notes

[a] Made available electronically; printed versions of the publication are issued much later.

[b] "Standard country or area codes for statistical use" (ST/ESA/STAT/SER.M/49/Rev.4); it lists about 230 countries and areas.

[c] In some cases, in addition to their member States, Eurostat or OECD also collect data from non-member countries.

Appendix

United Nations Statistics Division statistical data collections, by branch and periodicity

The list set out below enumerates all statistical data-collection activities involving national or international external sources of any kind. Data collections solely based on internal United Nations Statistics Division sources are not included.

1. **Statistical Yearbook (SYB)**
Annual
Statistical Services Branch

SYB presents (in print and on CD-ROM) over 400 statistical series in more than 80 tables on a wide range of social, economic and environmental concerns. Topics covered include: agriculture, forestry and fishing, balance of payments, culture and communication, development assistance, education and literacy, energy, environment, finance, health, nutrition, international merchandise trade, international tourism, labour force, manufacturing, national accounts, population and human settlements, science and technology, intellectual property, transport, and wages and prices. The CD-ROM version contains data from 1980 to the latest available year; the tables in the printed version cover a maximum of 10 years.

2. **World Statistics Pocketbook (WSP)**
Annual
Statistical Services Branch

WSP covers 57 key indicators in the areas of population, economic activity, agriculture, industry, energy, international trade, transport, communications, gender, education and environment, drawn from over 20 international statistical sources. The layout provides an easy-to-view comprehensive statistical profile for 209 countries.

3. **Monthly Bulletin of Statistics (MBS)**
Monthly
Statistical Services Branch

MBS presents (in print and online) current monthly economic statistics for most of the countries and territories of the world. In addition, each month a selection of special tables shows annual and/or quarterly data on subjects illustrating important economic trends and developments. Topics covered include: population, industrial production indices, price indices, manpower, energy commodities, iron ore production, transport, construction, international merchandise trade and finance.

4. **Main Aggregates and Detailed Tables (MAT NA)**
Annual
Economic Statistics Branch

Statistics on national accounts aggregates and detailed variables, such as gross domestic product (GDP), national income, savings, household and government consumption, and exports and imports.

5. **Analysis of Main Aggregates (AMA NA)**
Annual
Economic Statistics Branch

Focuses on summary GDP data, which are presented in the form of analytical tables, for about 210 countries and areas in the world. Most data are extracted from the MAT questionnaires; they are supplemented by estimates made by other international organizations.

6. **Vital Statistics (DVS DYB)**
Annual
Demographic and Social Statistics Branch

This questionnaire consists of 31 tables on vital statistics, including live births by month of birth, legitimacy, sex, and duration of marriage; live-birth order; age of mother and father; and birth weight and gestational age. Next, it requests abridged life-table and complete life-table values. The next part of the questionnaire focuses on deaths by month of death, age, sex, urban and rural areas, marital status and occupation. Statistics on infant deaths are requested by month of death and age and sex. Statistics on late foetal deaths are requested by age of mother, legitimacy, total birth order and period of gestation. Data on legally induced abortions by age and number of previous live births of mother are also requested. Statistics on marriages are collected by month of marriage, previous marital status of bride and groom, age of bride and groom, and age and previous marital status of bride and groom. Data on divorces are requested by duration of marriage, number of dependent children, and age of husband and wife and duration of marriage.

7. **Population Estimates (DPE DYB)**
Annual
Demographic and Social Statistics Branch

This questionnaire consists of four tables requesting basic population statistics: de facto population estimates by age, sex, marital status and urban/rural residence as of mid-year, and de facto population estimates of the capital and cities of 100,000 or more inhabitants, latest available year.

8. **Migration (DMI DYB)**
Annual
Demographic and Social Statistics Branch

The questionnaire consists of three tables: major categories of international departures and arrivals, long-term emigrants and immigrants by country of intended long-term residence or by country of last long-term residence, and long-term emigrants and immigrants by age and sex.

9. **Population characteristics (DPC DYB)**
Annual
Demographic and Social Statistics Branch

The questionnaire consists of 18 tables, including population of major civil divisions by urban/rural residence, population in localities by size-class of locality and sex, and data on population of national capital and other principal cities with population of 100,000 or more. In addition, data are requested on households, population in

households and number of family nuclei by size of household and number of persons living in households. The next part requests data on population by single years of age, five-year age groups, sex, marital status and urban/rural areas; native and foreign-born population by age, sex, country of birth and duration of stay; population 10 years of age and over by literacy, age and sex; population 15 years of age and over by educational attainment, age and sex; and population 5 to 24 years of age by school attendance, single years of age and sex. Data on female population 15 years of age and over by age and number of children born alive by urban/rural areas are also requested, as well as female population 15 years of age and over by age and number of children living by urban/rural areas. The final tables requests data on population by: citizenship, national and/or ethnic group, religion and language and sex.

10. Economically Active Population (DEA DYB)
Annual
Demographic and Social Statistics Branch

The questionnaire consists of eight tables covering population by type of activity, age and sex; population not economically active by functional categories, age and sex; economically active population by industry, occupation, age and sex; economically active foreign-born population by occupation, age and sex; economically active population by status, industry, occupation, age and sex; and female population by type of activity, age and marital status.

11. Households (DHO DYB)
Annual
Demographic and Social Statistics Branch

The questionnaire consists of nine tables, including population by age, sex and type of household; households by age, sex and marital status of head of household; population by number of persons in household; and households by type of household, number of household members and presence of spouse by age and sex of head.

12. Detailed International Trade Statistics (DIT)
Annual
International Trade Statistics Branch

Value and quantity of imports and exports by commodity and within commodities the partner countries, national currency.

13. Direction of Trade Statistics (DOT)
Annual
International Trade Statistics Branch

Total value of imports by country of origin and total value of exports by country of final destination; national currency; annual.

14. Manufactured Goods Exports/Fuel Imports (MGE)
Annual, quarterly, monthly
International Trade Statistics Branch

Manufactured goods exports value, unit value index, quantum index, fuel imports, value, unit value index, quantum index.

15. Total exports/imports; values/index numbers (TEI)
Annual, quarterly, monthly
International Trade Statistics Branch

Total value of imports and exports, unit value and quantum indices.

16. Environmental Statistics (ENS)
Biennial
Environment, Energy and Industrial Statistics Branch

ENS aims to collect a comprehensive set of major environmental variables and indicators in the fields of water resources and pollution, air emissions and quality, waste generation and treatment, and land use and degradation. The data collection includes all those countries that are not covered by data-collection efforts of OECD and Eurostat.

17. Energy Statistics (ERS)
Annual
Environment, Energy and Industrial Statistics Branch

ERS contains energy statistics on more than 215 countries and areas relating to production, trade and both intermediate and final consumption for primary and secondary conventional, non-conventional and new and renewable sources of energy. Data on heating (calorific) values are also provided in order to enable conversions to common units (tera-joules, coal equivalent and oil equivalent) for inter-fuel comparisons.

18. Industrial Commodity Production Statistics (ICP)
Annual
Environment, Energy and Industrial Statistics Branch

ICP contains annual data on production of industrial commodities, by all establishments engaged in mining, manufacturing and electricity gas and water supply, for all the countries of the world. The commodities selected belong to the "List of selected products and materials" (Statistical Papers, Series M, No. 54, part II), which contains about 530 commodities. The list of commodities is coded according to ISIC, Rev.2.

19. Index Numbers of Industrial Production
Quarterly
Environment, Energy and Industrial Statistics Branch

INI provides index numbers of world industrial production on a monthly, quarterly and annual basis. They are published in the *Statistical Yearbook* and *Monthly Bulletin of Statistics*. The indices indicate trends in value added in constant United States dollars. They provide information for the following categories of industrial activity: mining and its divisions; manufacturing and its divisions or combinations of divisions; electricity, gas and water supply, defined and classified in terms of ISIC, Rev.3.